

HYBRID SEMICONDUCTOR CIRCUIT WITH PROGRAMMABLE INTRACONNECTIVITY

ABSTRACT OF THE DISCLOSURE

Field programmable circuits and redundant logic are added to the substrate of a hybrid circuit with functionality to bypass and/or repair unusable dies in order to enhance yield and lower costs of manufacture. In a preferred embodiment, a collar of programmable logic is inserted between the functional component on the hybrid die and its I/O terminals. The programmable logic collar can be programmed after hybrid assembly and test in order to correct assembly errors or die failures through one or more of the following actions: switch between redundant functional units and I/Os on the hybrid die; switch between redundant IC dies on the substrate, invert signal polarity; correct crosstalk errors; perform test and fault isolation.

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